

WHAT IS CLAIMED IS:

1. A two-component coating system comprising:
 - 5 (i) a prepolymer containing free isocyanate groups, having an NCO content of from 0.4 to 12% by weight, obtainable by reacting a di- or polyisocyanate with one or more polyoxyalkylene polyols having an average hydroxy functionality of from 1.96 to 6 and an equivalent weight of at least 250 g/mol, wherein the
10 polyoxyalkylene polyols are obtained by alkoxyating hydroxy-functional starter molecules in the presence of double metal cyanide catalysts, and
 - (ii) a diprimary aromatic diamine having at least one alkyl substituent having 2-3 carbon atoms positioned ortho to each amino group.
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2. The coating system of Claim 1, wherein the polyisocyanate of (i) is one or more selected from the group consisting of toluene diisocyanate (TDI), methylenediphenyl diisocyanate (MDI), triisocyanatononane (TIN), naphthyl diisocyanate (NDI), 4,4'-diisocyanatodicyclohexylmethane, 3-isocyanatomethyl-
20 3,3,5-trimethylcyclohexyl isocyanate (isophorone diisocyanate = IPDI), tetramethylene diisocyanate, hexamethylene diisocyanate (HDI), 2-methylpentamethylene diisocyanate, 2,2,4-trimethylhexamethylene diisocyanate (THDI), dodecamethylene diisocyanate, 1,4-diisocyanatocyclohexane, 4,4'-diisocyanato-3,3'-dimethyldicyclohexylmethane, 4,4'-diisocyanato-2,2-
25 dicyclohexylpropane, 3-isocyanatomethyl-1-methyl-1-isocyanatocyclohexane (MCI), 1,3-diisooctylcyanato-4-methylcyclohexane, 1,3-diisocyanato-2-methylcyclohexane and $\alpha,\alpha,\alpha',\alpha'$ -tetramethyl-m-xylylene diisocyanate or $\alpha,\alpha,\alpha',\alpha'$ -tetramethyl-p-xylylene diisocyanate (TMXDI) and mixtures thereof.
- 30 3. The coating system of Claim 1, wherein the polyoxyalkylene polyols in (i) have a double bond content of less than 50 mmol/kg

4. The coating system of Claim 1, wherein the diprimary aromatic diamine (ii) includes one or more diamines selected from the group consisting of 1-methyl-3,5-diethyl-2,4-diaminobenzene, 1-methyl-3,5-diethyl-2,6-diaminobenzene,
5 1,3,5-triethyl-2,6-diaminobenzene, 3,5,3',5'-tetraethyl-4,4'-diaminodiphenylmethane, 3,5,3',5'-tetraisopropyl-4,4'-diaminodiphenylmethane, 3,5-diethyl-3',3'-diisopropyl-4,4'-diaminodiphenylmethane and mixtures thereof.
5. A coating composition obtainable by reacting components (i) and (ii) of
10 the two-component coating system according to Claim 1 in a proportion corresponding to an NCO/NH₂ equivalents ratio of from 0.5:1 to 1.5:1.
6. A coating composition according to Claim 5, comprising one or more
additives selected from the group consisting of pigments, fillers, plasticizers such
15 as coal tar, and levelling assistants.
7. A process for producing elastic coatings comprising:
mixing the components of the two-component coating system according to
Claim 1 in a proportion corresponding to an NCO/NH₂ equivalents ratio of from
20 0.5:1 to 1.5:1;
applying the mixture to a substrate; and
curing the two-component coating system mixture.
8. A polyurea polymer prepared by reacting the coating composition
25 according to Claim 2.